



*WHEN TO REMOVE A PLAYER  
FROM THE FIELD FOLLOWING  
A KNEE INJURY – BASIC  
GUIDELINES FOR A RUGBY MEDIC*

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*Providing coaches, referees, players, and administrators with the knowledge, skills, and leadership abilities to ensure that safety and best practice principles are incorporated into all aspects of contact rugby.*

## **INTRODUCTION**

Being asked to provide basic medical cover at a rugby match comes with a huge responsibility. The players are trusting that, if they are injured, their injury will be dealt with in a professional manner, and in a way which will provide the best possible outcome for them in both short and long term. To provide that service one needs the basics, which are:

### **1. Equipment**

- a. Splint to immobilise the knee
- b. Compression bandage
- c. Ice Pack

### **2. Availability**

- a. Before the game
  - i. Introduce yourself to the team and coach
- b. During the game
  - i. Can gain valuable information from watching the injury happen
  - ii. Respond immediately
- c. After the game
  - i. Make sure everybody is OK!

### **3. Knowledge**

- a. The content knowledge will be provided in this article

### **4. Backup team**

- a. Make sure that a referral protocol is available for the injured player if he needs follow-up treatment

It is your responsibility to make sure that everything is in place. If it is not, then do not provide the service.

## **MOST COMMON RUGBY INJURIES**

### **1. Ranking of knee injuries among all injuries in rugby**

- a. Head injuries most common
- b. Muscle injuries next common
- c. Hip and knee injuries the third most common

### **2. Common mechanism of knee injuries**

- a. Tackle
- b. Non contact

### **3. Common knee injuries**

- a. Ligaments
  - i. MCL (Medial Collateral Ligament) – ligament on the inside of your knee, treated non-operatively
  - ii. ACL (Anterior Cruciate Ligament) – In the middle of your knee, needs surgical reconstruction
  - iii. Med PF (Medial Patella Femoral Ligament) – this ligament tears when you dislocate your knee cap, treated non-operatively
  - iv. LCL (Lateral Collateral Ligament) – Ligament on the outside of your knee, needs surgical repair
  - v. PCL (Posterior Cruciate Ligament) – Ligament in the middle of your knee and dependant on the grade of injury might need surgical reconstruction
- b. Meniscal
  - i. Medial Meniscus – More likely to be injured, needs surgical repair
  - ii. Lateral – Seldom injured, but more serious and needs repair
- c. Osteochondral
  - i. Bone bruise – Stress fracture in the bone
  - ii. Chondral (Articular Cartilage) – Layer that covers the bone and makes it very smooth
    1. Partial - Treated with rest
    2. Complete – Needs surgical intervention and has a bad outcome
  - iii. Bone
    1. Subchondral
    2. Structural – will show up on X-rays and need specialist treatment

- d. Soft tissue
  - i. Contusion – Bleeding in soft tissue, treated with RICE (Rest/Ice/Compression/Elevation)
  - ii. Laceration
- e. Neuro vascular – These are surgical emergencies and can lead to loss of limb
  - i. Vein
  - ii. Artery
  - iii. Nerve

### **WHEN TO TAKE THE PLAYER OFF**

When we make these decisions there are 2 conflicting goals:

1. Minimise the effect of the injury for the player
2. Minimise the loss of playing time for the player

It is important to understand that it is not one or the other, but always a compromise between the two goals; the players need to be informed about the risks and rewards involved with each choice.

There are a couple of factors that will influence your decision:

1. Player's health should take preference when there is doubt
2. Age of player
3. Importance of the match
4. Time of the season

The injury has happened, now they are looking at you to make a decision. Injuries, and the course of action to take, can be group as follows:

#### **1. Obviously minor – Continue**

1. Direct contusion injuries
  1. Kicks or bumps around the knee, normally painful but not too serious –  
Miracle ice gets rid of the pain
2. No Swelling
  1. Redness is ok but any fluid on the knee means there is a serious injury
3. Knee stable
  1. Compare to the other leg

4. Full range of movement
  1. Fully straight and fully bent without pain
5. Player able to weight bear
  1. The best test: let him put weight on the leg, if it feels fine let him play

## **2. Obviously serious – Remove**

1. Unable to move or put weight on the knee
  1. If unable to move the leg or put weight on remove player from the field immediately on stretcher
2. Unstable
3. Abnormal alignment
4. Bleeding or Laceration
5. Change in colour of the foot
6. Any sensory deficit distally

Time is all-important, do not try to make a diagnosis, there is nothing that you can do on the field.

Procedure for immediate evacuation is:

- Splint the leg in long leg splint
- If the leg is obviously deformed, try to pull on it and straighten it once, if it does not straighten then splint as is and get to medical help.
- Stretcher off the field or carry off the field
- Do not waste time trying to evaluate the injury in the medical room - evacuate to a unit where the injury can be handled

## **3. Not sure – Evaluate then decide**

1. Do not try and evaluate on the field
2. Remove to a facility where proper evaluation can be informed

## ***WHEN TO REFER THE PLAYER FOR A SPECIALIST OPINION***

This is one area that has changed tremendously over the last few years. With the special investigations that are available, a diagnosis can be made without being interventional. The biggest problem with injuries is making the wrong diagnosis, and not getting the appropriate treatment to stop further damage. Therefore, do not diagnose until you are certain, rather than labeling a player with the wrong diagnosis.

The player and coach understandably want to know if he can start training and whether he can play in the upcoming weekend – do not commit yourself to a decision until you are certain.

The only question is whether to be cost effective.

**1. Cost not a problem**

1. Should have a definitive diagnosis by the Monday to plan treatment protocol

**2. Cost effective**

1. Re-evaluate the next day
2. Refer if
  - a. Effusion
  - b. Ligament laxity
  - c. Pain more than expected
3. No obvious pathology but too painful to evaluate
  - a. Keep on crutches
  - b. Re-evaluate the next day
4. If still too painful on day 3 to make a diagnosis, then refer

***CASE STUDIES***

**1. Player stays down after scrum**

- a. Ask the player what happened
  - i. Somebody fell directly on his knee
  - ii. No popping sound just felt pain
- b. Examination
  - i. Knee is at normal angle
  - ii. No effusion
  - iii. Good range of movement
  - iv. Stable
  - v. Very tender with direct pressure
    1. This is probably a direct contusion and after some ice you ask the player to stand up and put some pressure on the knee
- c. He can continue and should be fine

## 2. Player injured in Tackle

### a. What happened?

- i. Felt something snap in the knee
- ii. Tackled from the side

### b. Examination

- i. Not too painful
- ii. No swelling
- iii. Moving the knee feels uncomfortable
- iv. Stressing the knee painful

1. This is probable a ligament injury and should be removed from the field

### Points to remember:

1. Pain is not a good guide to how severe the injury is.
2. The player himself will tell you if the knee is in trouble.
3. It is impossible to make a diagnosis on the field in an acute situation, due to muscle spasm and also because it is not possible to assess stability.
4. Get the player's confidence before the game. If he knows you are not the kind of medic that is just going to take him off the field, he will be open about the injury and confide in you.

